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EXAMINER	
TORRES, JOSEPH D	
ART UNIT	PAPER NUMBER
2112	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/825,142	BROWN ET AL.	
	Examiner	Art Unit	
	Joseph D. Torres	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05/15/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
As per claim 14: claim 14 does not recite any limitation that can be regarded as a step/action further limiting the method of claim 1, claim 14 instead recites attributes of a data structure intended for use in a step for claim 1.

Claims 16 and 28 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, because apparatus claims cover what a device is, not what a device does (Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)).

The language in claims 16 and 28 is descriptive in nature describing the structure of an abstract packet data structure. Claims 16 and 28 fail to recite any structural element that further limits the apparatus of claim 15.

As per claim 16: claim 16 does not recite any limitation that can be regarded as a structural element or structural interconnection further limiting the data processing system of claim 15, claim 16 instead recites attributes of a data structure and introduces language suggesting intended use of the recited data structures.

As per claim 28: claim 28 does not recite any limitation that can be regarded as a structural element or structural interconnection further limiting the method of claim 1, claim 14 instead recites attributes of a data structure.

Claim 30 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The language in claims 31 and 34-38 is descriptive in nature describing the structure of an abstract packet data structure. Claims 31 and 34-38 fail to recite any instruction that further limits the product/program/signal of claim 30.

As per claim 30: claim 30 does not recite any limitation that can be regarded as a instruction further limiting the method of the computer program product of claim 29, claim 30 instead recites attributes of a data structure and introduces language suggesting intended use of the recited data structures.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: any step connecting the data structures in claim 14 to the steps of claim 1.

As per claim 14: claim 14 does not recite any limitation that can be regarded as a step/action further limiting the method of claim 1, claim 14 instead recites attributes of a data structure.

Claims 16 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function, because apparatus claims cover what a device is, not what a device does (Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990)). The omitted structural cooperative relationships are: any structural elements connecting the data structures in claims 16 and 28 to the steps of claim 15.

As per claim 16: claim 16 does not recite any limitation that can be regarded as a structural element or structural interconnection further limiting the data processing system of claim 15, claim 16 instead recites attributes of a data structure and introduces language suggesting intended use of the recited data structures.
As per claim 28: claim 28 does not recite any limitation that can be regarded as a structural element or structural interconnection further limiting the method of claim 1, claim 14 instead recites attributes of a data structure.

Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted essential elements are: any instructins connecting the data structures in claim 30 to the product/program/signal of claim 29.
As per claim 30: claim 30 does not recite any limitation that can be regarded as a instruction further limiting the method of the computer program product of claim 29, claim 30 instead recites attributes of a data structure and introduces language suggesting intended use of the recited data structures.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 29-38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Page 30 of the Applicant's specification recites, "recordable-type media, such as a floppy disk, a hard disk drive, a RAM, CD-ROMs, DVD-ROMs, and transmission-type media". Transmission-type media such a signals are non-statutory. Computer programs that are not attached to hardware such as floppy disk, a hard disk drive, a RAM, CD-ROMs, DVD-ROMs are also non-statutory.

Response to Arguments

Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 15, 29 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson; Michael I. et al. (US 5430842 A, hereafter referred to as Thompson) in view of Hefferon; Eugene Paul et al. (US 5659756 A, hereafter referred to as Hefferon) and Bean; George H. et al. (US 4843541 A, hereafter referred to as Bean).

35 U.S.C. 103(a) rejection of claims 1, 15, 29 and 39.

Thompson teaches responsive to receiving the data packet at a first partition of a data processing system from a second partition of a data processing system, identifying a state of a first flag and a state of a second flag in the data packet (Col. 3, lines 40-49 and col. 8, lines 13-27 of Thompson teaches checksum control information including first flag 74 and second flag 72, responsive to receiving the data packet at a first partition 22 in Figure 2 of Thompson of a data processing system from a second partition 12 in Figure 2 of Thompson of a data processing system, is used for identifying a state of first flag 74 and a state of second flag 72 in the data packet in order to verify datqa); and selectively verifying a checksum, by the first partition in the logical partitioned data processing system, for the data packet as indicated by the state of the first flag and the state of the second flag (Col. 3, lines 40-49 and col. 8, lines 13-27 of Thompson), wherein the first flag and the second flag are both checksum-based flags that indicate checksum characteristics associated with the data packet (col. 8, lines 13-27 of Thompson).

However Thompson does not explicitly teach the specific use of a logical partitioned data processing system.

Hefferon, in an analogous art, teaches use of a logical partitioned data processing system (Abstract in Hefferon).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hefferon with the teachings of Hefferon and Bean by including use of a logical partitioned data processing system. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of a logical partitioned data processing system would have provided highly efficient operation of a plurality of different programming systems in the different zones of the system (col. 1, lines 9-13 in Bean).

Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maezawa; Hirofumi et al. (US 6145024 A, hereafter referred to as Maezawa) in view of Kondo; Satoshi et al. (US 6618396 B1, hereafter referred to as Kondo) and Lansing, Shane P. et al. (US 20030058862 A1, hereafter referred to as Lansing) in further view of Thompson; Michael I. et al. (US 5430842 A, hereafter referred to as Thompson) in view of Hefferon; Eugene Paul et al. (US 5659756 A, hereafter referred to as Hefferon) and Bean; George H. et al. (US 4843541 A, hereafter referred to as Bean).

35 U.S.C. 103(a) rejection of claims 1, 15, 29 and 39.

Maezawa teaches receiving a data packet at a first partition in the interpartition virtual network from a second partition in the interpartition virtual network in the logical

partitioned data processing system (col. 3, lines 60-65, col. 12, lines 1-12 and Figure 1 in Maezawa clearly suggest receiving data packets at a first partition in the interpartition virtual network of Figure 3 from a second partition in the interpartition virtual network of Figure 3 in the logical partitioned data processing system of Figure 3); and verifying a checksum in a first partition in the logical partitioned data processing system for the data packet (Figure 5 in Maezawa teaches that each packet has a CRC checksum used for verifying received data, which clearly suggests verifying a checksum in a receiving first partition in the logical partitioned data processing system for the data packet responsive to receiving the data packet).

Note: Figure 1 explicitly teaches inter-partition devices Host Computer 1 and memory Control unit 6 disposed to communicate directly to each other via high and medium capacity lines 20 and 21 to provide Host computer direct access to main memory for Host Computer 1. Figurer 1 in Maezawa also teaches a Switching device 7 for providing communication to other devices external to Host computer 1 and its own main memory. The internal direct connections between a host computer and its own main memory is an inter-partition network. Col. 8, lines 41-50 make clear that the switching device 7 can be used to create virtual connections to any device on the network including main memory Control unit 6 for Host computer 1 to create an inter-partition virtual network. That is, the inter-partition virtual network comprising main memory Control unit 6 and Host computer 1 is disposed to communicate directly or virtually via switching device 7 in order to receive data packets at a first partition Host computer 1 in the interpartition virtual network of Figure 3 from a second partition memory Control unit

6 in the interpartition virtual network of Figure 3 in the logical partitioned data processing system of Figure 3.

However Maezawa does not explicitly teach the specific use of **identifying a state of a first flag and a state of a second flag in the data packet**; and **selectively** verifying a checksum **based on the state of the first flag and the state of the second flag**. Kondo and Lansing, in an analogous art, teaches use of identifying a state of a first flag (Step 905 in Figure 9 and claim 1 in Lansing teaches identifying a state of a first CRC flag used to indicate the presence of redundancy) and a state of a second flag (col. 39, lines 55-67 in Kondo teaches a second ECC flag in a packet indicating whether error are present in the packet or not) in the data packet; and selectively verifying a checksum based on the state of the first flag (Steps 905-915 in Figure 9 of Lansing) and the state of the second flag (col. 39, lines 62-67 in Kondo teaches identifying/detecting the second ECC flag to selectively verify the CRC checksum). Note: the flags in Kondo and Lansing are two distinct flags, the flag in Kondo providing an indication of whether redundancy exits (Note: ti is well known that some protocols such as UDP do not require redundancy whereas TCP does; in a multi-protocol system such as the one in Maezawa this information is critical since checksum verification can only take place if redundancy exists) and the flag in Lansing indicates whether an error has been detected in a network device such as the switching device 7 in Maezawa used to forward data to an intended receiver). Col. 39, lines 62-67 in Kondo explicitly teaches performing a CRC check (i.e., checksum verification) responsive to the ECC flag. CRC generation is responsive to the CRC flag in Lansing and since the CRC check (i.e.,

checksum verification) in both Kondo and Maezawa (and implicitly in Lansing) is **based on** the presence of CRC, the CRC check (i.e., checksum verification) is also **based on** the CRC flag.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Maezawa with the teachings of Kondo and Lansing by including use of identifying a state of a first flag and a state of a second flag in the data packet; and selectively verifying a checksum based on the state of the first flag and the state of the second flag. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of identifying a state of a first flag and a state of a second flag in the data packet; and selectively verifying a checksum based on the state of the first flag and the state of the second flag would have provided a flexible arrangement whereby the packet creator can decide whether CRC is needed (Abstract in Lansing) and would have provided flagging for erroneous data for use by system controllers (col. 35, lines 55-62 in Kondo).

Thompson teaches responsive to receiving the data packet at a first partition of a data processing system from a second partition of a data processing system, identifying a state of a first flag and a state of a second flag in the data packet (Col. 3, lines 40-49 and col. 8, lines 13-27 of Thompson teaches checksum control information including first flag 74 and second flag 72, responsive to receiving the data packet at a first partition 22 in Figure 2 of Thompson of a data processing system from a second partition 12 in Figure 2 of Thompson of a data processing system, is used for identifying

a state of first flag 74 and a state of second flag 72 in the data packet in order to verify datqa); and selectively verifying a checksum, by the first partition in the logical partitioned data processing system, for the data packet as indicated by the state of the first flag and the state of the second flag (Col. 3, lines 40-49 and col. 8, lines 13-27 of Thompson), wherein the first flag and the second flag are both checksum-based flags that indicate checksum characteristics associated with the data packet (col. 8, lines 13-27 of Thompson).

However Maezawa, Kondo, Lansing and Thompson do not explicitly teach the specific use of a logical partitioned data processing system.

Hefferon, in an analogous art, teaches use of a logical partitioned data processing system (Abstract in Hefferon).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Maezawa, Kondo, Lansing and Thompson with the teachings of Hefferon and Bean by including use of a logical partitioned data processing system. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that use of a logical partitioned data processing system would have provided highly efficient operation of a plurality of different programming systems in the different zones of the system (col. 1, lines 9-13 in Bean).

35 U.S.C. 103(a) rejection of claims 2, 16 and 30.

Col. 39, lines 55-67 in Kondo teaches a second ECC flag in a packet indicating whether errors are present in the packet or not. Step 905 in Figure 9 and claim 1 in Lansing teaches identifying a state of a first CRC flag used to indicate the presence of redundancy.

In addition, claim 2 recites data attributes of two data elements, but fail to recite a concrete limitation that can be regarded as a step/function of a method that concretely provide an additional limitation further limiting claim 1. Claim 2 is properly rejected under the same grounds as claim 1. The same applies to claims 16 and 30 with respect to claims 15 and 29.

35 U.S.C. 103(a) rejection of claims 3, 17 and 31.

Steps 905-915 in Figure 9 of Lansing teaches verifying the CRC, if CRC is present indicated by the first CRC flag and col. 39, lines 62-67 in Kondo teaches that verifying the checksum, if there are no errors in the packet indicated by the second ECC flag. Note: the flags in Kondo and Lansing are two distinct flags, the flag in Kondo providing an indication of whether redundancy exits (Note: ti is well known that some protocols such as UDP do not require redundancy whereas TCP does; in a multi-protocol system such as the one in Maezawa this information is critical since checksum verification can only take place if redundancy exists) and the flag in Lansing indicates whether an error has been detected in a network device such as the switching device 7 in Maezawa used to forward data to an intended receiver). Col. 39, lines 62-67 in Kondo explicitly teaches performing a CRC check (i.e., checksum verification) responsive to the ECC flag. CRC

generation is responsive to the CRC flag in Lansing and since the CRC check (i.e., checksum verification) in both Kondo and Maezawa (and implicitly in Lansing) is **based on** the presence of CRC, the CRC check (i.e., checksum verification) is also **based on** the CRC flag.

35 U.S.C. 103(a) rejection of claims 4, 18 and 32.

Steps 905-915 in Figure 9 of Lansing teaches skipping the verification step, if no CRC is present indicated by the first CRC flag. Note: the flags in Kondo and Lansing are two distinct flags, the flag in Kondo providing an indication of whether redundancy exits (Note: ti is well known that some protocols such as UDP do not require redundancy whereas TCP does; in a multi-protocol system such as the one in Maezawa this information is critical since checksum verification can only take place if redundancy exists) and the flag in Lansing indicates whether an error has been detected in a network device such as the switching device 7 in Maezawa used to forward data to an intended receiver). Col. 39, lines 62-67 in Kondo explicitly teaches performing a CRC check (i.e., checksum verification) responsive to the ECC flag. CRC generation is responsive to the CRC flag in Lansing and since the CRC check (i.e., checksum verification) in both Kondo and Maezawa (and implicitly in Lansing) is **based on** the presence of CRC, the CRC check (i.e., checksum verification) is also **based on** the CRC flag.

35 U.S.C. 103(a) rejection of claims 5, 19 and 33.

Col. 39, lines 62-67 in Kondo teaches that skipping the checksum verification, if there are errors in the packet indicated by the second ECC flag.

Note: Step 905 in Figure 9 and claim 1 in Lansing teaches identifying a state of a first CRC flag used to indicate the presence of redundancy. The Examiner asserts that regardless of what the second flag is, if no CRC is included a CRC cannot be performed, that is the CRC check will be skipped if the first flag is unset and the second flag is set since the is no CRC.

35 U.S.C. 103(a) rejection of claims 6-10, 14, 20-24, 28 and 34-38.

Kondo and Lansing teach adaptive parameters (Steps 905-915 in Figure 9 of Lansing teaches a first CRC flag used to indicate the presence of redundancy; Col. 39, lines 62-67 in Kondo teaches a second ECC flag in a packet indicating whether errors are present) for allowing a sending station to notify a receiving station whether a transmitted packet has redundancy for use in verifying the packet based on a first CRC flag and whether the packet has errors so that receiving controller can imitate error handling based on a second ECC flag intended for use in the particular embodiments of claims 6-10, 14, 20-25, 28 and 34-38.

In addition, claims 6-10 and 14 recite data attributes of two data elements, but fail to recite a concrete limitation that can be regarded as a step/function of a method that concretely provide an additional limitation further limiting claim 1. Claims 6-10 and 14 are properly rejected under the same grounds as claim 1. The same applies to claims 20-24, 28 and 34-38 with respect to claims 15 and 29.

35 U.S.C. 103(a) rejection of claims 11 and 25.

Page 3 of the Applicant's specification teaches that virtual adapters are used to send packets to each other in an interpartition virtual network. Multiplexer channel devices 3 and 10 in figure 1 of Maezawa are examples of virtual adapters used for interpartition communications (see Abstract in Maezawa).

35 U.S.C. 103(a) rejection of claims 12 and 26.

Maezawa teaches a first generating means for generating a new data packet for a target destination (interface driver 33 in Figure 2 of Maezawa); second generating means for generating the checksum for the new data packet if the new data packet is to be sent outside of the interpartition virtual network by a physical network adapter (external interface protocol control circuit 37 in Figure 2 of Maezawa); and sending means for sending the new data packet to the target destination (multiplex/distribution control circuit 36 in Figure 2 of Maezawa).

35 U.S.C. 103(a) rejection of claims 13 and 27.

Maezawa teaches means for sending the new data packet to the target destination using one of the physical network adapter (external interface protocol control circuit 37 in Figure 2 of Maezawa) or a virtual network adapter (link connection control circuit 38 in Figure 2 of Maezawa).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph D. Torres
Primary Examiner
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